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10/539,264	06/16/2005	Masahiro Yasumura	038919-56418US	8500
23911	7590	11/17/2008	EXAMINER	
CROWELL & MORING LLP			CHANG, RICK KI/LTAE	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/539,264	Applicant(s) YASUMURA ET AL.
	Examiner Rick K. Chang	Art Unit 3726

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 01 October 2008.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-13 is/are pending in the application.

4a) Of the above claim(s) that are not listed in item 6 below is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 3,4,6,8 and 10-13 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 0/16/05

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date _____

5) Notice of Informal Patent Application

6) Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Species 2 in the reply filed on 10/1/08 is acknowledged.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 3-4, 6, 8 and 10-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

There are numerous phrases and clauses in the claims that are vague, indefinite, and/or awkwardly and confusingly worded, and therefore, are not fully understood. The following are examples:

Claim 3, line 3: Is "a female spline" referring to "a female spline" in line 1 or something else?

"the axial direction" lacks positive antecedent basis.

Claims 4, 6, 8, 10-11 do not conform to US method format.

Claims are ambiguous and competitors would be unable to discern the bounds of the invention.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 3, 6 and 12, as best understood, are rejected under 35 U.S.C. 102(e) as being anticipated by Toda et al (US 6,672,769).

Re claims 3, 12: Toda discloses roughly processing a female spline by broaching on a hole of a work for a hub which integrally comprises a flange for attaching a wheel and a shaft portion formed with said hole extended in the axial direction ; fitting and attaching a bearing on said shaft portion of the work for the hub and fitting and fixing the outer end of an inner race of said shaft at the other end portion of said shaft portion in the axial direction by plastically deforming by caulking (or clinching); and subsequently, finishing the female spline by semi-dry or dry broaching on said hole of said shaft portion on which the spline is roughly processed (col. 6, lines 64-67 and col. 7, lines 1-16; since there is no mention of lubricant, it must be semi-dry or dry broaching).

Re claim 6: Toda discloses a seal (between 15 and 16 and right side of 17, there lies a seal) so as to perform a semi-dry or dry broaching work.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 6, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Toda et al (US 6,672,769) in view of Mott et al (US 5,011,302).

Toda teaches the invention as described with respect to claims above. Toda discloses the rough processing of said female spline by broaching is carried out by fitting a ring on said shaft portion, or by chucking a part of said shaft portion so as to form the hole such that the size thereof is greater at a portion nearer a portion plastically deformed by caulking (or clinching) of said shaft portion for an estimated amount of contraction caused by plastically deforming and press-fitting of an inner race element and the broaching work is conducted in this state (15 is provided around the hub before caulking and broaching is performed after caulking; see col. 7, lines 7-11), except for press-fitting a ring.

Mott discloses press-fitting a ring (col. 2, lines 54-55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Toda by press-fitting a ring, as taught by Mott, for the purpose of preventing the hub hole from being enlarged more than a design criteria.

8. Claim 8, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Toda et al (US 6,672,769) in view of Brown (US 5,197,837).

Toda teaches the invention as described with respect to claims above. Toda fails to disclose cleaning means is employed for removing chips attached to a tool in the course of said semi-dry or dry broaching work.

Brown discloses cleaning means is employed for removing chips attached to a tool in the course of said semi-dry or dry broaching work (2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Toda by cleaning means is employed for removing chips attached to a tool in the course of said semi-dry or dry broaching work, as taught by Brown, for the purpose of removing metal chips.

9. Claim 10, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Toda et al (US 6,672,769) in view of Cannelli, Jr. (US 6,155,760).

Toda teaches the invention as described with respect to claims above. Toda fails to disclose covering means which is opened only when the tool comes in or goes out is provided either one or both on a side upper than the upper end of said hub unit and on a side lower than a surface on which the hub unit is installed, and semi-dry or dry broaching work is performed by intercepting chips falling on the hub unit by means of this covering means.

Cannelli discloses covering means (30) which is opened only when the tool comes in or goes out (Fig. 1) is provided either one or both on a side upper than the upper end of said work unit and on a side lower than a surface on which the work unit is installed, and broaching work is performed by intercepting chips falling on the work unit by means of this covering means (col. 1, lines 65-66).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Toda by covering means which is opened only when the tool comes in or goes out is provided either one or both on a side upper than the upper end of said hub unit and on a side lower than a surface on which the hub unit is installed, and semi-dry or dry broaching work is performed by intercepting chips falling on the hub unit by means of this covering means, as taught by Cannelli, for the purpose of minimizing cleaning after broaching.

10. Claims 11 and 13, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Toda et al (US 6,672,769) in view of Scott et al (US 5,489,169).

Toda teaches the invention as described with respect to claims above. Toda fails to disclose a direction of the broaching work for roughly processing the female spline is the reverse of a direction of the finishing work of said female spline.

Scott discloses a direction of the broaching work for roughly processing the female spline is the reverse of a direction of the finishing work of said female spline (Fig. 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Toda by a direction of the broaching work for roughly, as taught by Scott, for the purpose of providing a smooth surface.

Conclusion

11. Please provide reference numerals (either in parentheses next to the claimed limitation or in a table format with one column listing the claimed limitation and another column listing corresponding reference numerals in the remark section of the response to the Office Action) to all the claimed limitations as well as support in the disclosure for better clarity (optional).

Applicants are duly reminded that a full and proper response to this Office Action that includes any amendment to the claims and specification of the application as originally filed requires that the applicant point out the support for any amendment made to the disclosure, including the claims. See 37 CFR 1.111 and MPEP 2163.06.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick K. Chang whose telephone number is (571) 272-4564. The examiner can normally be reached on 5:30 AM to 1:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rick K. Chang/
Primary Examiner, A.U. 3726

RC
November 18, 2008